



# ***OBSERVATIONS "FROM THE GUT"***

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***RDA Chief Engineer***

***Single Integrated Air Picture (SIAP) System Engineer***

**1992**

GTMO  
L.A.  
Hurricane Andrew  
Counterdrug  
Pakistan  
SOUTHERN WATCH  
PROVIDE HOPE  
PROVIDE RELIEF  
PROVIDE PROTECTION  
RESTORE HOPE  
Liberia  
Guam

**1991**

EASTERN EXIT  
DESERT STORM  
PROVIDE COMFORT  
SEA ANGEL  
FIREFY VIGIL

**1990**

PROMOTE LIBERTY  
TOP KICK  
SHARP EDGE  
DESERT SHIELD

**1989**

Libya Shootdown  
NIMROD DANCER  
BLADE JEWEL  
Philippines  
JUST CAUSE

**1998**

DESERT THUNDER  
INDONESIA  
INDIA/PAKISTAN  
KOSOVO  
*DELIBERATE FALCON*  
JOINT FORGE  
INFINITE REACH  
HURRICANE GEORGES  
HURRICANE MITCH  
IRAQ

**1997**

NORTHERN WATCH  
ASSURED LIFT  
JOINT GUARD  
(SFOR)  
SILVER WAKE  
GUARDIAN  
RETRIEVAL  
CAMBODIA  
IRAQ

**1993**

Operation DENY F  
Operation SUPPORT  
DEMOCRACY (Haiti)  
SOUTHERN WATCH  
PROVIDE CONFORT  
Iraq Air Strike  
Somalia - Rangers  
Flood Relief

**1999**

Allied Force  
Shining Hope  
Joint Guardian  
East Timor

**1994**

L.A. Earthquake  
Korea  
Bosnia  
DISTANT RUNNER  
SUPPORT HOPE  
Cuba  
PROVIDE PROMISE  
UNISOM II  
WILDFIRE SUPPORT  
UPHOLD DEMOCRACY  
VIGILANTE WARRIOR

**1995**

UNITED SHIELD  
DELIBERATE FORCE  
Hurricane Opal  
VIGILANT SENTINEL  
IFOR-Bosnia  
(Joint Endeavor)

**1996**

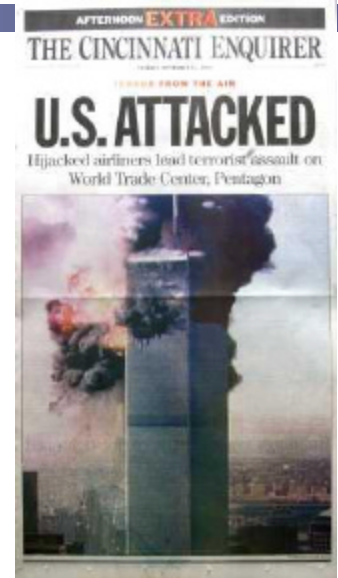
China  
Cuba  
Korea  
ASSURED RESPONSE  
QUICK RESPONSE  
Burundi  
Olympics  
Desert Strike  
Khobar  
Towers

# GOOD NEWS AND BAD NEWS



## GOOD NEWS...

**Cold War is Over**



## BAD NEWS...

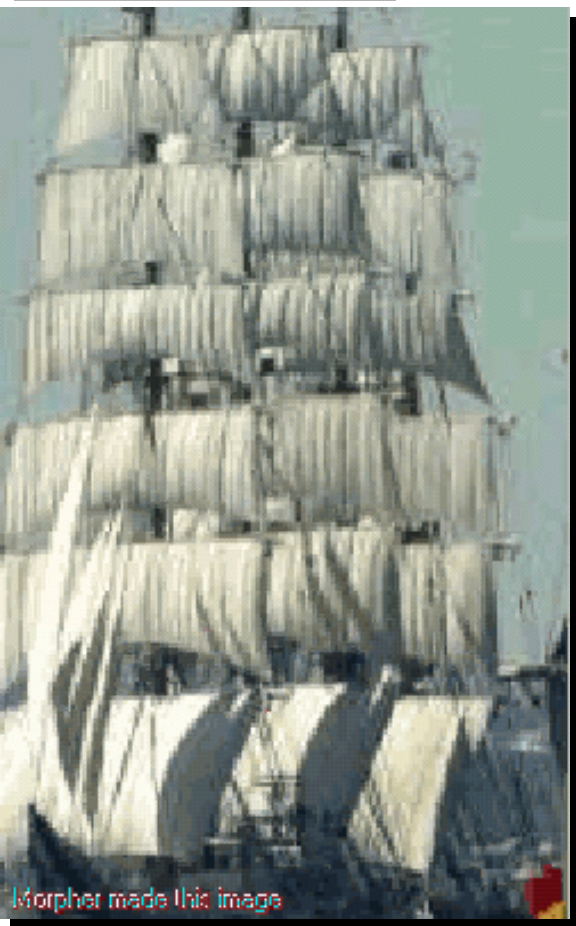
**Enemy/Threat Axis  
Much Less Well-Defined**

**Threat Diversity, Complexity and Capability  
Growing Rapidly**

***NOT THE TIME TO REST !!!***



# ***THE QUESTION REMAINS . . .***

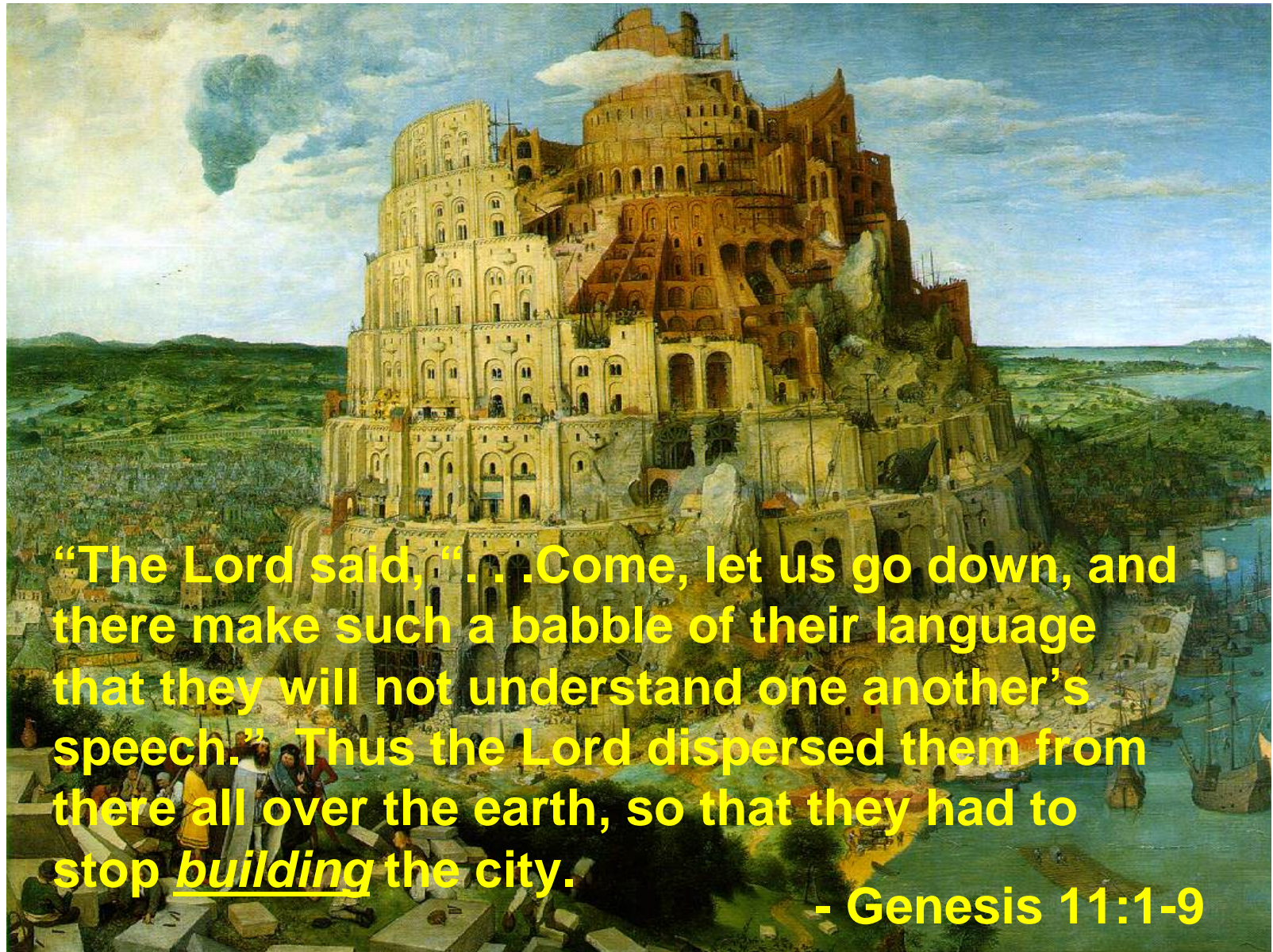


# NEED TO (REALLY) LISTEN TO OUR WARFIGHTERS (MORE) . . .





# COMMON OBJECTIVE WITHOUT COMMON LANGUAGE OR LEXICON

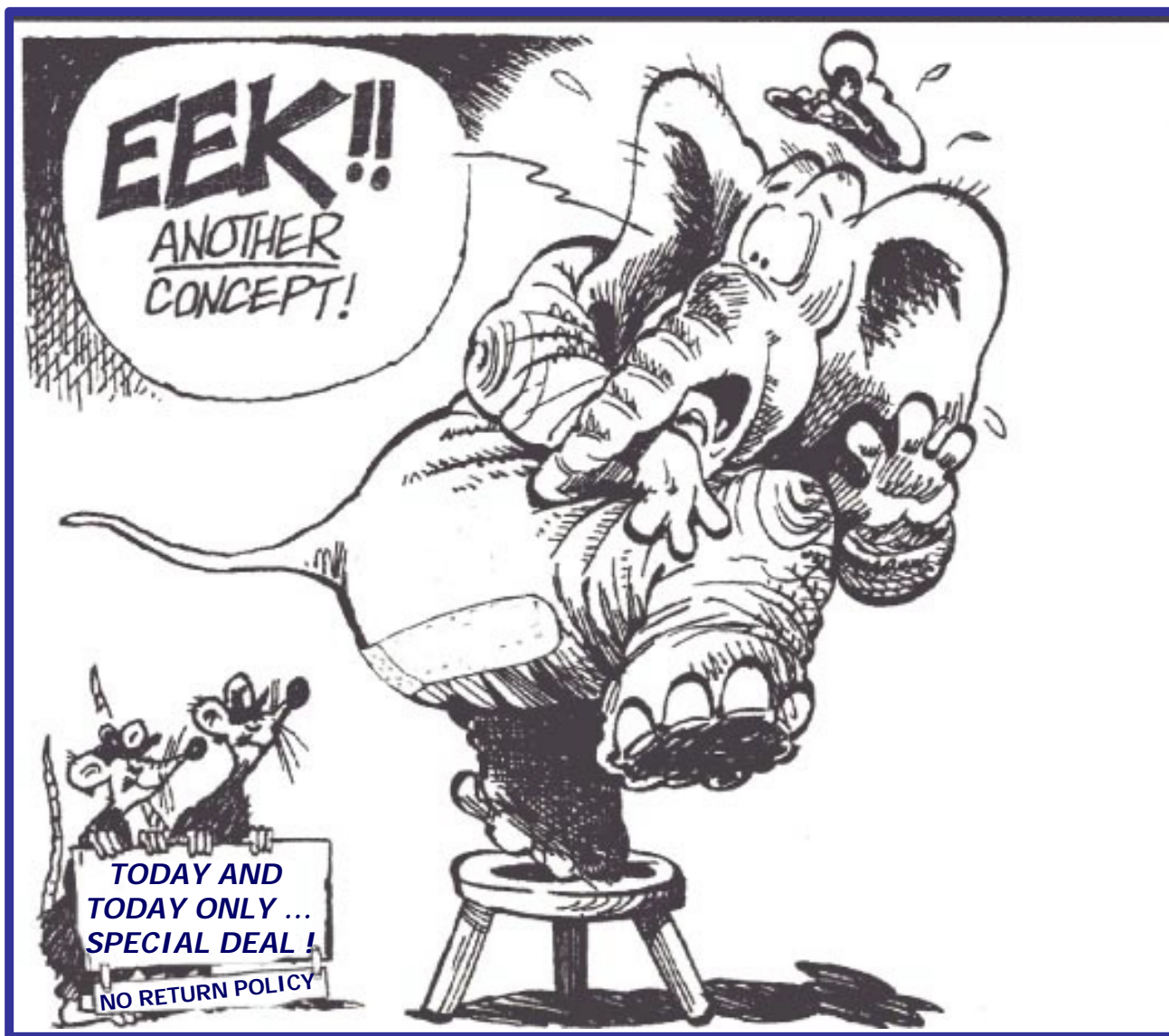


“The Lord said, “...Come, let us go down, and there make such a babble of their language that they will not understand one another’s speech.” Thus the Lord dispersed them from there all over the earth, so that they had to stop building the city.

- Genesis 11:1-9



# AND WE NEED MORE THAN A "BAND AID" FIX... !



# *IT'S HIGH JUMP, NOT LIMBO . . .*





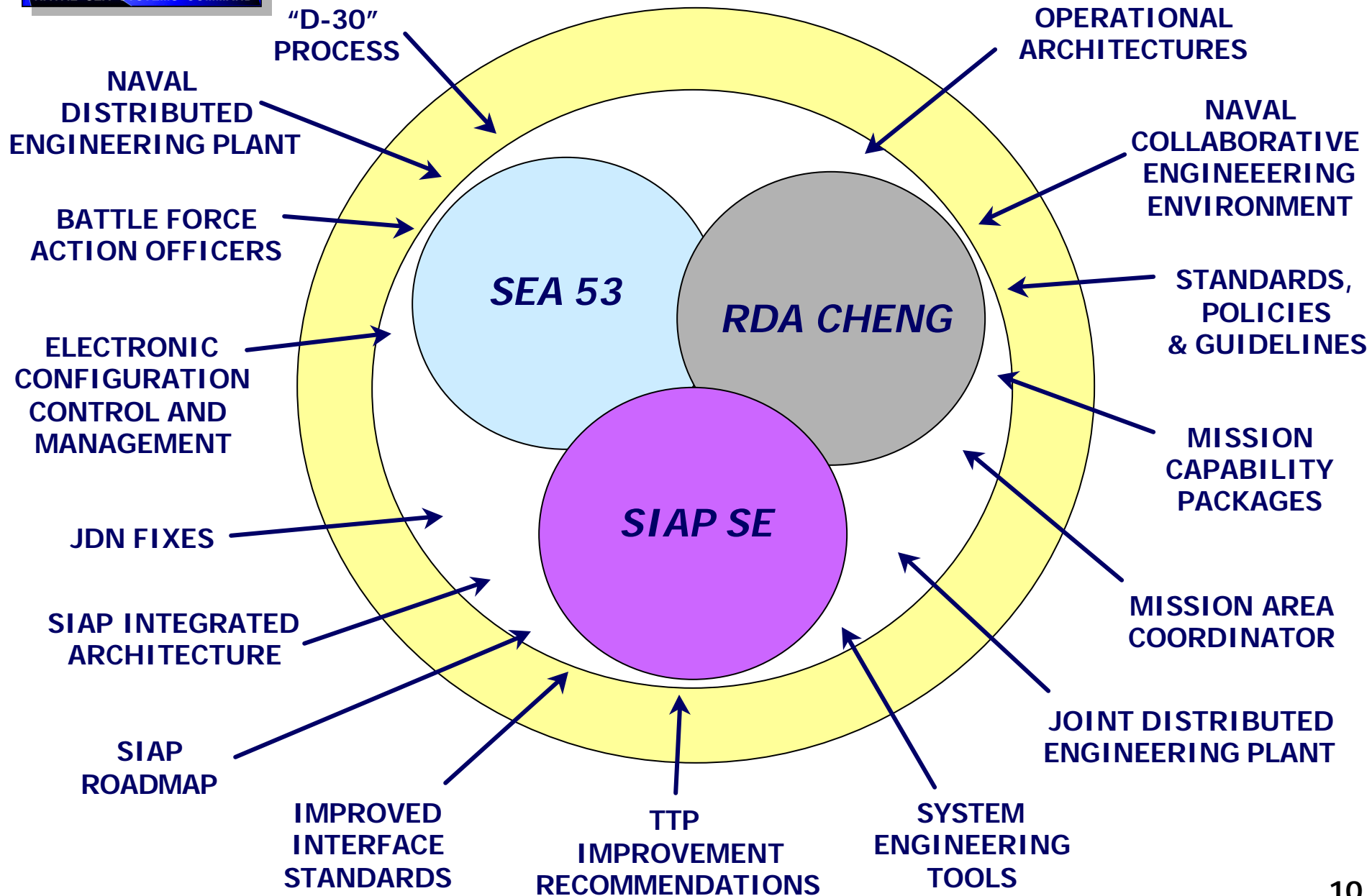


# ***SOME THOUGHTS ON ENGINEERING CHALLENGES***

- **Commercial Off-the-Shelf Technology (COTS)**
- **Reliance on COTS Requires Open Architecture**
  - Open Architecture Allows for Equipment Upgrades, Without Total Redesign of the System
- **Joint Interoperability....the environment has changed...the Joint Battle Force is THE SYSTEM**

***REQUIREMENTS DRIVE TECHNOLOGY***

# WHAT ARE WE DOING?







# ***INDUSTRY DIALOG - STARTED AND ONGOING -***

- **Battle Force Interoperability Task Force – June 1998**
- **Joint Distributed Engineering Task Force – November 1999**
- **Naval Interoperability Industry Day – July 2001**
- **Single Integrated Air Picture (SIAP) Industry Day – September 2001**
- **Navy Single Integrated Picture (SIP) Study – September 2001**
- **Industry Workshops – SIAP Architecture – TBD November 2001**



# ***WHERE DO WE GO FROM HERE ?***

- **“CLOSE TO HOME” . . . WORK ON ESTABLISHING JOINT/NAVAL CONNECTIVITY WITH TOOLS SUCH AS THE NAVY AND JOINT DEP**
- **“WE” HAVE TO BE MORE RECEPTIVE TO INDUSTRY IDEAS AND FEEDBACK**
- **INDUSTRY PARTNERSHIP/PROACTIVE SUPPORT AT EVENTS SUCH AS “INDUSTRY DAYS” AND APPLICABLE WORKSHOPS**
- **“BOTH OF US” HAVE TO WORK TOWARD MAKING OUR PROFESSIONAL PARTNERSHIP MORE EFFECTIVE . . . AND PRODUCTIVE !**